3-27-2015

Translocating Massasaugas as a Conservation Measure

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Translocating Massasaugas (*Sistrurus catenatus*) as a Conservation Tool

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INTRODUCTION

- There has been an increase in the use of translocation for conservation in recent years[1]
- Effects of translocation on snake spatial ecology are understudied[2]
- Relocating can be motivated by the goal of preventing harm to humans, wildlife, or both (Figs. 1 and 2)
- In 2014 we moved snakes from active military training zones to areas of known natural use [3]

Fig. 1. (left) Remnants of structures previously used by gravid female massasaugas; Fig. 2 (right). *Thamnophis sirtalis* management mortality

STUDY SITE

- Camp Grayling National Guard base, Grayling, MI
- Military training zones managed by the National Guard
- Study area is portion of military base, where massasauga spatial ecology researched for several years (Fig. 3)

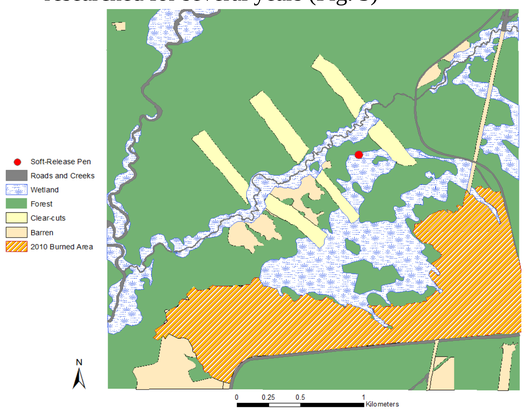

Fig. 3. ArcGIS map of historical study area

METHODS

- Resident (control) snakes obtained within historical use area, translocated nuisance/at-risk snakes from military ranges outside research site boundaries
- Snakes were surgically implanted with either a 9.0 or 5.0 gram transmitter
- 16 resident snakes (seven males, nine non-gravid females) and six translocated snakes (two males, two non-gravid females, two gravid females) followed in 2014 active season
- Release pen constructed near center of study area (Fig. 4)
- Three translocated snakes hard-released (immediately outside pen), three soft-released (held within pen for 10 days maximum to "anchor" to the area)

Fig. 4. Soft release pen

PRELIMINARY FINDINGS

- Two gravid females gestated and gave birth within close proximity to release pen (Figs. 5 and 6)
- One translocated non-gravid female mated with a non-telemetered resident male
- All six translocated snakes found a hibernaculum at the end of the active season
- Comparison of condensed activity ranges (Fig. 7)

Fig. 5. Gravid female basking in soft release pen

Fig. 6. Neonates from translocated female

PRELIMINARY FINDINGS (cont.)

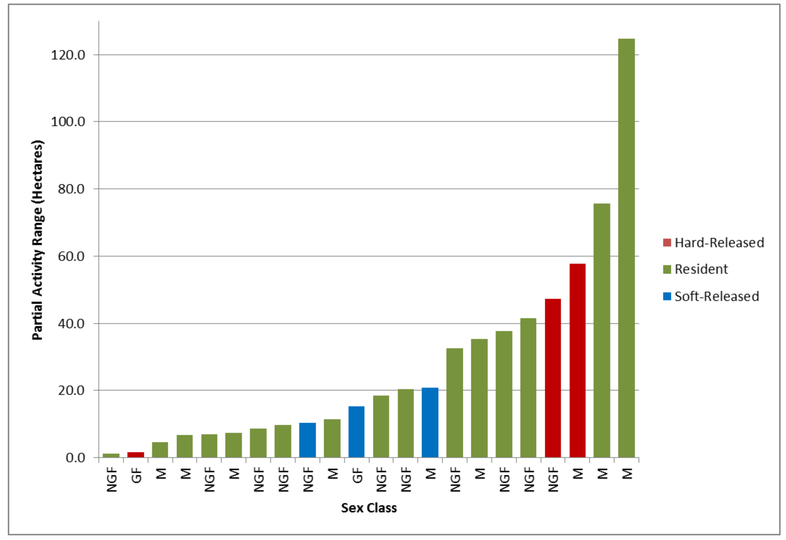

Fig. 7. Area utilized from Jun 20-Sept 28 using minimum convex polygons

FUTURE EFFORTS

- Determine overwintering survivorship in Spring 2015
- Continue to translocate massasaugas
- Examine multi-year spatial ecology of individual translocated massasaugas
- Analyze habitat selection preferences at landscape and home range levels
- Investigate potential pheromone communication between resident and translocated snakes
- Collect snakes from new ranges

Acknowledgements

We thank Michael Forzley and Jenna Parker for field data collection. We also thank the Michigan Department of Military and Veterans Affairs, the Michigan Society of Herpetologists, and the Fort Wayne Children's Zoo for funding.

References

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